

# HIV-related health and risk behavior among persons experiencing homelessness

**Cari Courtenay-Quirk, Ph.D.**

**Division of HIV/AIDS Prevention, Centers for Disease Control and  
Prevention**

Presented at ACTHIV Conference

Denver, Colorado

May 22, 2010

*Disclaimer: The findings and conclusions in this presentation are those of the author  
and do not necessarily represent the views of the Centers for Disease Control and  
Prevention.*



# Learning Objectives

- At the end of this presentation, participants should be able to:
  - Describe key aspects of homelessness in the United States
  - Identify HIV-related health and risk behaviors associated with homelessness/housing instability that may be present in your area
  - Utilize interventions in your area that have improved health outcomes for homeless persons who are living with or at high risk for HIV.

I do not intend to discuss any non-FDA approved or investigational used of any products/devices in this presentation.

# Homelessness: definition and scope

(Sources: <http://portal.hud.gov/portal/page/portal/HUD/topics/homelessness/definition>; HUD AHAR, 2009) [Evidence level B, epidemiological studies]

- McKinney-Vento Act, 1987, defined homelessness for access to federal programs
- From October 2007-Sept 2008, 1.6 million used a shelter or transitional housing program.
- In a single night in January 2008:
  - ▣ Nearly 60% were in emergency shelter/transitional housing;
  - ▣ 38% were homeless as part of a family
  - ▣ About 30% homeless single persons were estimated to experience chronic homelessness

# Trends in homelessness

(Sources: US Conference of Mayors, 2009; National Law Center on Homelessness and Poverty, 2010, HUD 2008 AHAR, 2009)  
[Evidence level B, epidemiological studies]

- Characteristics of sheltered homeless: male (64%), members of minority groups (62%), older than 31 (41%), disabled (43%), and alone (67%).
- Homelessness has been rising over the past 20-25 years due to reduced availability of affordable housing and increases in poverty rates.
- Due to the recent economic downturn and foreclosure crisis, numbers of persons experiencing homelessness is likely to be increasing

# Homelessness and health

(Sources: HUD AHAR, 2009; Badiaga et al., 2008, Schanzer et al., 2007) [Evidence level B, epidemiological studies]

- Homeless persons are disproportionately affected by:
  - Substance use
  - Mental illness
  - HIV and other communicable infections, e.g., Hepatitis B and C, active TB.
  - Skin infections, e.g. scabies and lice
  - Chronic medical conditions
  - Dual diagnoses and co-morbid conditions

# HIV-related risk behaviors

(Sources: Aidala et al. 2005, Elifson et al., 2007; Friedman et al., 2009; Rotheram-Borus et al., 2003) [Evidence level B, epidemiological and clinical cohort studies]

- HIV risk behavior is associated with homelessness/housing instability
- Compared to stably-housed persons, unstable housing is associated with higher rates of:
  - Injection drug use
  - Alcohol and hard drug use
  - Transactional sex
  - Unprotected sex
  - Greater numbers of sex partners

# Health among homeless PLWHA

(Sources: Kidder et al., 2007; Leaver et al., 2007; Schwarcz et al., 2009) [Evidence level B, epidemiological and clinical cohort studies]

- Homeless PLWHA may be less likely to obtain and adhere to recommended medical treatment
- Compared to stably housed PLWHA, homeless or unstably housed fare worse on:
  - Utilization of health care and social services
  - Adherence to anti-retroviral treatment regimens
  - Clinical measures of health (VL, CD4, Hepatitis C co-infection)
- Housing instability increases risk of death among persons with AIDS

# Recommendations for clinicians treating HIV-infected homeless persons

[Evidence level C, expert opinions]

- Integration of primary care with substance use treatment and mental health services (McMurray-Avila et al., 1998)
- Further recommendations :
  - Conanan B, London K, Martinez L, Modersbach D, O'Connell J, O'Sullivan M, Raffanti S, Ridolfo A, Post P, Santillan Rabe M, Song J, Treherne L. *Adapting Your Practice: Treatment and Recommendations for Homeless Patients with HIV/AIDS, 62 pages. Nashville: Health Care for the Homeless Clinicians' Network, National Health Care for the Homeless Council, Inc., 2003.*

# Interventions to reduce HIV risk behavior and improve health

- A limited number of interventions have targeted HIV prevention interventions to homeless populations and rigorously evaluated effects.
  - Behavioral interventions
    - Targeted to homeless persons
    - Examined as a subset from a larger sample
  - Housing as a structural intervention
  - Housing plus intensive case management

# Behavioral HIV interventions

(Sources: Rotheram-Borus et al., 2003, 2009; Slesnick & Kang, 2008) [Evidence level A, RCT]

- *Street Smart* for street-involved youth demonstrated effects on sexual risk, alcohol and drug use among females and reduction in marijuana use among males.
- *Healthy Living* for homeless PLWHA led to:
  - Reduction in unprotected sex, number of serodiscordant sex partners
  - Reduction in alcohol, marijuana , and hard drug use
- *Community Reinforcement Approach*: intervention for street-involved youth increased condom use among older youth.

# Housing (structural) intervention

(Source: Wolitski et al., in press) [Evidence level A, RCT]

- CDC-HUD Housing & Health Study assessed effects of housing assistance on PLWHA:
  - Sexual and drug risk behaviors
  - Access to care, adherence, and health status
- Randomized controlled trial (N = 630) in Baltimore, Chicago, & Los Angeles
  - Immediate HUD housing rental assistance or customary care (provided by local housing agencies)
  - CAPI and A-CASI assessment and blood tests (CD<sub>4</sub>, viral load) at baseline, 6, 12, and 18 months

# Results: CDC - HUD Housing & Health Study

(Source: Wolitski et al., in press)

- Significant differences favoring housing assistance for mental health (depression, perceived stress)
- Housing improvement over time associated with improvements in:
  - Perceived stress
  - One or more ER visits, past 6 months
  - Detectable viral load
- No significant effects for HAART use, adherence to HAART, sexual risk behavior

# Housing and case management intervention

(Sources: Buchanan et al., 2009; Sadowski et al., 2009) [Evidence level A, RCT]

- *CHHP*: Housing and case management intervention for homeless chronically ill persons recruited from hospitals in Chicago:
  - Demonstrated reductions in hospitalizations, days spent in hospital, and ER visits at 18-months follow-up.
  - Sub-analysis of outcomes for HIV-positive participants showed intervention :
    - Increased survival with intact immunity
    - Decreased HIV RNA viral load

# Summary

- Homeless persons are disproportionately affected by HIV and other health disparities. [Evidence level B, epidemiological studies]
- Lack of stable housing can interfere with behavioral risk reduction, access to care, and treatment adherence, which negatively affect health-related QOL and mortality. [Evidence level B, epidemiological and clinical cohort studies]
- HIV patients with housing needs may have additional treatment needs (e.g., mental illness, substance use) and elevated risk for co-morbid conditions. [Evidence level B, epidemiological and clinical cohort studies]
- Combined interventions (e.g., structural/housing and behavioral or comprehensive case management) may prove more effective than stand-alone approaches. [Evidence level C, expert opinion]

# References

- Aidala et al. (2007). Housing need, housing assistance, and connection to HIV medical care. *AIDS and Behavior*, 11, S101-S115.
- Aidala, A., Cross, J. E., Stall, R., Harre, D., & Sumartojo, E. (2005). Housing status and HIV risk behaviors: Implications for prevention and policy. *AIDS and Behavior*, 9(3), 251-265.
- Badiaga, S., Raoult, D., Brouqui, P. (2008 Sept [accessed on 4/28/2010]). Preventing and controlling emerging and re-emerging transmissible disease in the homeless. *Emerging Infectious Diseases* [series on the Internet], available online <http://www.cdc.gov/EID/content/14/9/1353.htm>.
- Buchanan, D., Romina, R., Garcia, L. S., (2009). The health impact of supportive housing for HIV-positive homeless patients: A randomized controlled trial. *American Journal of Public Health*, 99(Suppl 3), S675-S680.
- Conanan B, London K, Martinez L, Modersbach D, O'Connell J, O'Sullivan M, Raffanti S, Ridolfo A, Post P, Santillan Rabe M, Song J, Treherne L. *Adapting Your Practice: Treatment and Recommendations for Homeless Patients with HIV/AIDS*, 62 pages. Nashville: Health Care for the Homeless Clinicians' Network, National Health Care for the Homeless Council, Inc., 2003.
- Elifson, K. W., Sterk, C. E., & Theall, K. P. (2007). Safe living: The impact of unstable housing conditions on HIV risk reduction among female drug users. *AIDS and Behavior*, 11(6), S45-S55.
- Friedman, M.S., Marshal, M.P., Stall, R., Kidder, D.P., Henny, K.D., Courtenay-Quirk, C., Wolitski, R.J., Aidala, A., Friedman, M. R., Royal, S., & Holtgrave, D.R. (2009). Associations Between Substance Use, Sexual Risk Taking and HIV Treatment Adherence Among Homeless People Living with HIV. *AIDS Care*, 21(6), 692-700.

# References p. 2

- HUD (2009). The 2008 Annual Homeless Assessment Report. US Department of Housing and Urban Development, Office of Community Planning and Development. Available online at <http://www.hudhre.info/documents/4thHomelessAssessmentReport.pdf>. Accessed April 30, 2010.
- Hwang, SW, Tolomiczenko, G., Kouyoumdjian, F. G., & Garner, R. E. (2005). Interventions to improve the health of homeless: A systematic review. *American Journal of Preventive Medicine*, 29(4), 311-319.
- Kidder, D. P., Wolitski, R. J., Campsmith, M. L., Nakamura, G. V. (2007). Health status, medication use, and medication adherence among homeless and housed people living with HIV/AIDS. *American Journal of Public Health*, 97(12), 2238-2245.
- Leaver, C. A., Bargh, G., Dunn, J. R., & Hwang, S. W. (2007). The effects of housing status on health-related outcomes in people living with HIV: A systematic review of the literature. *AIDS and Behavior*, 11(Suppl2), S85-S100.
- McMurray-Avila, Gelberg, L., & Breakey, W. R. (1998). Balancing act: Clinical practices that respond to the needs of homeless people. Presented at the 1998 National Symposium on Homelessness Research. Available online at <http://aspe.hhs.gov/progsys/homeless/symposium/8-clinical.htm>. Accessed April 26, 2010.
- National Law Center on Homelessness and Poverty (2010 April). Indicators of Increasing Homelessness Due to the Foreclosure and Economic Crises. Factsheet available online <http://www.nlchp.org/content/pubs/foreclosure%20fact%20sheet2.pdf>. Accessed April 30, 2010.
- Rotheram-Borus, M. J., Song, J., Gwadz, M., Lee, M., Van Rossem, R., & Koopman, C. (2003). Reductions in HIV risk among runaway youth. *Prevention Science*, 4, 173-187.
- Rotheram-Borus, MJ, Desmond, K., Comulada, W. S., Arnold, E. M., Johnson, M., and the Healthy Living Trial Group (2009). Reducing risky sexual behavior and substance use among currently and formerly homeless adults living with HIV. *American Journal of Public Health*, 99(6), 1100-1107.

# References p. 3

- Sadowski, L.S., Kee, R. A., VanderWeele, T. J., Buchanan, D. (2009). Effect of a housing and case management program on emergency department visits and hospitalizations among chronically ill homeless adults: A randomized trial. *Journal of the American Medical Association*, 301(17), 1771-1778.
- Schanzer, B., Dominguez, B., Shrout, PE., Caton, CLM (2007). Homelessness, health status, and health care use. *AJPH*, 97(3), 464-469.
- Schwarcz, Hsu, Vittinghoff, et al (2009, July 7) Impact of housing on the survival of persons with AIDS. *BMC Public Health*, 9.
- Slesnick, N., & Kang, ML (2008). The impact of an integrated treatment on HIV risk behavior among homeless youth: A randomized controlled trial. *Journal of Behavioral Medicine*, 31(1), 45-59.
- Tsui, JL, Bangsberg, DR, Ragland, K, Hall CS, Riley ED (JUL 2007) The impact of chronic hepatitis C on health-related quality of life in homeless and marginally housed individuals with HIV AIDS AND BEHAVIOR ,11 ( 4 ), 603-610 .
- US Conference of Mayors (2009). Hunger and homelessness survey: A status report on hunger and homelessness in America's cities. Available online at <http://usmayors.org/pressreleases/uploads/USCMHungercompleteWEB2009.pdf>. Accessed April 30, 2010.
- Wolitski et al. (in press). Randomized trial of the effects of housing assistance on the health and risk behaviors of homeless and unstably housed people living with HIV. *AIDS and Behavior*. DOI: 10.1007/s10461-009-9643-x.